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ABSTRACT

The Strategic Information Technology Plan of Washington is introduced and explained. The plan is mandated by state law to create a new framework for communication and collaboration to bring together agency technology planning with the achievement of statewide information technology goals and strategies. It provides a point of reference for the agency strategic plans, agency performance reports, and statewide performance reports on information technology (IT). Goals are to: (1) improve service delivery to the public through the use of IT; (2) make information more accessible through an affordable and widely-available communications infrastructure; (3) use information technology to respond quickly to changing business requirements; and (4) invest in people, tools, methods, and partnerships that support agency missions through IT in the government. Responsibilities associated with these goals include those of implementing information technology strategies and those of reporting on the processes. The role of IT in both public and private sectors is changing from being absorbed in technical issues to being more involved with the attainment of core goals. The ability to adapt to changing conditions will become a prime concern of government agencies. Two figures illustrate the discussion. Appendixes include a technical reference guide, a list of contributors to the plan, a glossary, and a plan for video telecommunications. Contains two figures. (SLD)

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State of Washington

Strategic Information Technology Plan

January 1993

DIS
State of Washington
Department of Information Services
Policy and Regulation Division

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Table of Contents

Executive Summary 1

Introduction 4

Directions in Technology and Public Service 6

— Key Technologies 6

The Planning Partnership 8

Mission 10

Goals and Strategies 10

Implementation Process 15

Roles and Responsibilities for Implementation 15

Primary Responsibility for Strategies 16

Agency Implementation Responsibilities 18

Policy and Regulation Division Responsibilities 19

Joint Implementation Responsibilities 20

Timeline for Major Milestones 20

Appendices

A. Technical Reference Guide 22

B. Contributors to the Plan 23

C. Glossary 24

D. Video Telecommunications Strategic Plan 30

Executive Summary

This plan is mandated by the Information Technology Act of 1992 to create a new framework for communication and collaboration that brings together agency technology planning with the achievement of statewide information technology goals and strategies. It provides a point of reference for the agency strategic plans, agency performance reports, and statewide performance reports on information technology (IT).

Information is an essential strategic asset. The successes of many agency program areas are critically dependent on the ability to transform data into information through effective information technology. The complexities of the technology that generate, store, and protect this information must be managed at a statewide level in order to serve the diverse information needs of the state. Government agencies, the Legislature, higher education, citizens, private enterprises, and other organizations expect highly responsive, well coordinated and appropriate access to information from a large number of government sources.

This plan affects nearly all aspects of state government, because of the dependence upon information to accomplish agency missions.

Agencies depend on information to accomplish their missions. Therefore, this plan affects nearly all aspects of state government. As a result of this dependency, this plan must first be understood and acted upon by two key categories of decision makers:

- Agency program executives
- Technology professionals

While these two groups have different roles to play, they must forge a stronger partnership during the decade ahead in order to be effective. The information technology community must serve the agency mission more as an integral part of the whole organization. The missions of agencies are too critical to settle for anything less than a fully coordinated approach.

In the preparation of this plan, the Policy and Regulation Division of the Department of Information Services (DIS/PRD) conducted a series of in-depth interviews and focus group meetings with selected agency executives. These interviews demonstrated that consensus already exists within the state regarding the need to increase public service responsiveness and improve communication among state agencies. As a result, the mission and goals reflect a strategic decision to effectively align IT to better serve agency goals and objectives.

Mission of Information Technology

Optimize, coordinate, and deploy state of Washington information technology resources to support and enable effective government operations and public service.

Goals of Information Technology

Goal 1: ***Improve service delivery to the public through the use of information technology.***

Goal 2: ***Make information more accessible through an affordable and widely-available communications infrastructure.***

Goal 3: ***Use information technology to respond quickly to changing business requirements.***

Goal 4: ***Invest in people, tools, methods, and partnerships that support agency missions through information technology in government.***

Roles and Responsibilities for Implementation

In order to effectively and efficiently attain these goals, responsibilities exist at two levels in the implementation of this plan. First, there is the responsibility for the implementation of specific information technology strategies, and second, the responsibility of producing key reports required during this planning process.

Strategies designated as the primary responsibility of agencies must be incorporated into the agency's Strategic Plan Impact Assessment and Strategic Information Technology Plan. Strategies designated as the primary responsibility of the Policy and Regulation Division are statewide in scope. Agencies are included in the policy development process, although not primarily responsible for producing the ultimate product. Where needed, both parties are equally responsible for implementation of specific strategies.

Directions in Information Technology and Public Service

The role of IT in both the private and public sectors is changing from one absorbed only with technical issues to one more fully involved with the attainment of core organizational goals. During the 1970s and 80s, many technology professionals were preoccupied with the stand-alone issues of data centers, computer applications, and microcomputers. During the 1990s, technology professionals are called upon to further integrate systems and to provide an extraordinary level of agency support for a wider range of problems and opportunities.

During the years ahead government will be required to dramatically improve its effectiveness through better management, greater productivity, and efficient service. Rapid changes in demographics, lifestyle, and economics as well as technology result in a need to rethink and reshape the delivery of public service. The ability to adapt to changing conditions will become a prime concern of senior agency officials.

The role of technology is changing from one absorbed only with technical issues, to one more fully involved with core organizational goals.

Introduction

Information is an essential strategic asset. The successes of many agency program areas are critically dependent on the ability to transform data into information through effective use of information technology (IT). The complexities of the technology that generates, stores, and protects this information must be coordinated at a statewide level in order to serve the diverse information needs of the state. Government agencies, the Legislature, higher education, citizens, businesses, and other organizations expect highly responsive, well-coordinated, and appropriate access to information from a large number of government sources.

Although some Washington state agencies have been able to share data, technology, and talent, the state lacks a cohesive business and IT strategy that facilitates this sharing. Currently, many agencies work independently to accomplish new IT projects. Evidence indicates that there is a need for better processes and tools to support and leverage experience, talent, and resources across agencies. Lessons learned within one agency are often not shared to the benefit of other agencies. Often, these IT activities result in isolated information systems that cannot share information or processing capabilities among agencies. This practice results in suboptimal use of money, time, and talent collectively applied in responding to the state's opportunities and challenges.

This plan is mandated by the Information Technology Act of 1992 to create a new framework for communication and collaboration that makes technology business driven and brings together agency technology planning with the achievement of statewide information technology goals and strategies. It provides a point of reference for agency strategic plans, agency performance reports, and statewide performance reports of information technology.

In preparation of this plan, the Policy and Regulation Division of the Department of Information Services (DIS/PRD) conducted a series of in-depth

interviews and focus group meetings with selected agency executives. These interviews demonstrated that consensus already exists within the state regarding the need to increase public service responsiveness and improve communication among state agencies. Key issues for the decade ahead include:

- Improving linkage between IT and the business mission of each agency and the state as a whole.
- Delivering information into the hands of decision makers when and how they need it.
- Developing and evolving a statewide infrastructure leading to improved communications and computing systems that can be shared and upgraded.
- Increasing cooperation among agencies and decreasing duplication of effort.

There is a high level of consensus regarding the future vision of IT, however, concern over the state's ability to meet its public service challenges runs very deep. Such concerns could jeopardize attaining the vision. For example, nearly all participants expressed concern over necessary levels of funding and inadequate state procurement regulations.

This plan provides a point of reference for agency strategic plans and performance reports.

Other key concerns include:

- Need for a broad, long-term state technology policy.
- Need for joint planning, funding, and interagency alliances.
- Lack of leadership in the implementation of standards.
- Difficulty in recruitment and retention of technical staff.
- Need to provide incentives and rewards for innovation.
- Lack of training in the strategic integration of IT.

This document has been developed to respond to these issues. It will summarize key technology trends, discuss the need for partnership, present a mission, goals and strategies for information technology and an implementation plan for adoption by the state.

Directions in Information Technology and Public Service

The role of IT in both the private and public sectors is changing from one absorbed only with technical issues to one more fully involved in the attainment of core organizational goals. During the 1970s and 80s, many technology professionals were preoccupied with the stand-alone issues of data centers, computer applications, and microcomputers. During the 1990s, technology professionals are called upon to further integrate systems and to provide an extraordinary level of support for a wider range of problems and opportunities.

During the years ahead, government will be required to dramatically improve its effectiveness through better management, greater productivity, and efficient service. Rapid changes in demographics, lifestyle, and economics as well as technology result in a need to rethink and reshape the delivery of public services. The ability to adapt to changing conditions will become a prime concern to senior agency officials.

Key Technologies

The following list of technologies are anticipated to have the highest impact on agencies as they meet the challenges of the 1990s:

Communication networks have a tremendous effect on the ability to provide access to information quickly. **Local area networks, wide area networks**, and **high performance communication systems** will become more cost effective and universally available. These networks will increase productivity by providing important new network-based services such as **electronic mail, electronic data interchange, groupware, voice response, and video-conferencing.**

The decreasing cost of computing and the shift in the location of resources from data centers to desktops has far reaching ramifications. Sometimes referred to as "**client-server architecture**" or distributed computing, this trend will drive technology further into organizations and allow a larger number of citizens to have direct access and management of information. Data centers will continue

to play an important role in a more complex and decentralized technical environment.

This trend will be further accelerated by **mobile and wireless systems** such as cellular phones and laptop computers which take information systems out of the office, and the increasing use of home-based technologies which will result in more telecommuting and residential use of government services.

The integration of text, video, voice, and images will produce important new tools that make the presentation of information more powerful and dynamic. **Multimedia** applications will have a deep impact on training and education. Informational **kiosks** will be available to provide the public with information and services. Our understanding of the environment will be enhanced by applications such as **geographic information systems**, which combine mapping with statistical analysis and relational databases. As the use of these tools grows, new methods for storing information such as imaging and CD-ROM will make archiving and retrieving information more effective.

During the years ahead, government will be required to dramatically improve its effectiveness.

Many of these technologies will only benefit Washington State customers if technical standards that make it easier and more cost effective to use are in place. **Open systems** will be an option to fully exploit the rich variety of information technology opportunities ahead.

Security and disaster recovery measures will be critical for protecting and restoring government services that increasingly depend on information.

Systems development methodologies such as **rapid application development**, **computer aided software engineering**, and **incremental prototyping** will permit faster development of computer applications while reducing overall project risk.

These emerging technologies must be evaluated in balance with the need to preserve existing investments and with a full understanding of "best practices" in managing information technology.

No single technology is an instant cure for the problems facing public service. But when planned and implemented intelligently, there is ample evidence that information technology can significantly help government reach its goals.

The Planning Partnership

Agencies critically depend on information to accomplish their mission. Therefore, this plan affects nearly all aspects of state government. But it must first be understood and acted upon by two key categories of decision makers:

- Agency program executives
- Technology professionals

These two groups play different roles, but they must forge a stronger partnership during the decade ahead to be effective. The information technology community must serve the agency mission more as an integral part of the whole organization. The missions of agencies are too critical to settle for anything less than a fully-coordinated approach.

This new approach or stronger partnership is a necessary component in the ongoing improvement of public service. Technology offers the capability for state agencies to work in new ways through better communications and access to information. However, the management of information technology must remain focused on serving the agency mission.

The partnership will require agency executives and technology professionals to communicate and plan in new ways, to jointly develop a more integrated approach to technology implementation, and to ensure that the business objectives of government are met, not impeded, through the use of technology. One of the first steps to achieving this partnership is to acknowledge that serious barriers (real and perceived) exist which inhibit the effective use of IT within Washington State. These barriers include:

- Severe budget constraints.
- Lack of awareness of the impact of IT on state services.
- Ineffective communication and collaboration between agencies.
- Cumbersome acquisition policies and procedures.
- Inadequate training and human resource policies.
- Insufficient top management involvement.
- Risk aversion and lack of support for innovation.

These barriers are prevalent in many areas of state government and if left in place, will continue to prevent information technology from maximizing its capability to serve the agencies. Once these barriers are broken down, agencies will have a chance to pursue many significant initiatives. Agencies will increase their speed and ability to economically use new technology and improve the coordination and sharing of information.

This plan is a call to action for agencies to begin an effective partnership to eliminate or reduce barriers and to exploit opportunities within Washington State government.

This plan is a call to action for agencies to begin an effective partnership to eliminate barriers and exploit opportunities.

Mission of Information Technology

Optimize, coordinate, and deploy state of Washington information technology resources to support and enable effective government operations and public service.

Goals and Strategies for Information Technology

Goal 1:

Improve service delivery to the public through the use of information technology.

Excellence in the delivery of services to the public is a vital step in achieving government effectiveness. Information technology can be applied to the state's service processes to understand and deliver what the public wants, when they want it. The following strategies support this goal:

1.1 Optimize the delivery of services by using information technology to analyze, design, enhance, or eliminate processes within and among agencies.

1.2 Use information technology to increase public involvement in the processes that develop laws and policies, such as video programming, electronic bulletin boards, and voice response systems. Create electronic access to Washington State government laws, policies, and regulations.

1.3 Use software engineering methods, techniques, and tools to speed government responsiveness and implement better IT solutions.

1.4 Develop a statewide assessment process of information technology that promotes increased service levels so that the learning curve among agencies is reduced and state resources are leveraged. Near-term technologies to be assessed include groupware, GIS, security, object-oriented programming, kiosk-based technology, multimedia, and imaging. Develop and implement strategic plans for emerging technologies to link technology initiatives to business opportunities, similar to the statewide video telecommunications strategic plan.

1.5 Serve the public in a timely and responsive way by providing decision-makers at all levels within the organization with efficient and effective access to information and decision-support tools.

1.6 Identify incentives (cost-savings, information sharing) for cooperation and service delivery integration among state, local, and federal agencies.

Goal 2:

Make information more accessible through an affordable and widely-available communications infrastructure.

An integrated communications infrastructure bridges islands created by disparate systems.

Public agencies have invested in a variety of technologies to meet diverse information requirements. The disparity of these systems often creates "islands" of information resources. An integrated communications infrastructure bridges these islands, increasing coordination, and information sharing within and among government organizations, and providing public access to information. These strategies increase information access:

2.1 Establish a statewide communications strategy and resulting infrastructure to facilitate information access by state citizens. Support funding and governance structures that establish a new cooperative communications capability that transports any form of electronic information (voice, data, or image) among public sector agencies and educational institutions.

2.2 Develop, evolve, and implement technologies that enable state citizens to conveniently access government information from homes, businesses, libraries, and other locations to increase government responsiveness and public satisfaction.

2.3 Establish a state open standards profile that ensures adherence to accepted, vendor-independent standards that define interfaces and entities. Accomplish this by building from the Technical Reference Guide (Appendix A) to migrate from existing systems to open platforms. Migration can be accomplished through the development of agency strategic plans and a comprehensive implementation plan.

2.4 Support projects that demonstrate portability, scalability, and interoperability in government information technology to make information easier and less costly to access. Portability allows the use or migration of applications, data, and/or people across different platforms from multiple vendors. Scalability ensures the ability to use the same applications on all classes of computers. Interoperability permits applications and systems from different vendors to work together.

2.5 Establish electronic data interchange (EDI) policy, procedures, and standards to facilitate the sharing of data among government, industry, and the public. These groups should be considered as both users and suppliers of data.

2.6 Integrate government electronic mail systems to eliminate the barriers traditionally imposed by geography, demographics, or an agency's ability to pay.

2.7 Protect personal privacy and data integrity through the implementation of security practices that prevent the disclosure of information that might violate personal privacy or jeopardize vital government interests defined in law.

2.8 Prepare business resumption plans to ensure the rapid restoration of essential government services in the event of any emergency.

2.9 Implement the State of Washington Video Telecommunications Strategic

Plan (Appendix D), which calls for incremental implementation of a cost-effective, shared statewide video system to serve the Legislature, executive branch agencies, education, and the general public to improve Washington's quality of public service and increase productivity and government effectiveness through the efficient use of video technology.

Goal 3:

Use information technology to respond quickly to changing business requirements.

The rapid pace of change in both government and information technology requires that organizations learn to easily integrate and assimilate new ideas to be effective. The ability to innovate and adapt must be supported on the state level to improve government effectiveness. These strategies support this responsiveness:

The rapid pace of change in both government and information technology requires that organizations quickly assimilate new ideas.

3.1 Promote strategic alliances among federal, state, and local government, education, and industry in order to exchange information technology solutions and improve service to common customers.

3.2 Expedite the deployment of information technology solutions to meet rapidly changing agency needs by improving the acquisition process.

3.3 Encourage innovation with pilot or demonstration projects that test new solutions more rapidly through a process that allows for risk taking without negative consequences. This process includes an interagency funding and governance structure that initiates the identification and testing of potential pilot projects.

3.4 Explore the potential associated with privatizing and outsourcing information technology in government services.

3.5 Develop a statewide research, assessment, and planning process to investigate and apply emerging technologies in public service.

Goal 4:

Invest in people, tools, methods, and partnerships that support agency missions through information technology in government.

The effective use of IT requires an awareness of opportunities to leverage the resources of state government. This awareness can be developed through investment in programs and partnerships for education, training, and recognition that ensure employees have the necessary skills and incentives to provide effective public service through technology. The following strategies support this investment:

4.1 Effectively train information technology staff to utilize software engineering tools and techniques that result in decreased time needed to integrate and deploy information technology.

4.2 Provide education programs for all levels of agency program staff from the frontline employees to senior agency executives, so that the broad implications of technology are understood.

The effective use of information technology requires an awareness of opportunities to leverage the resources of state government.

4.3 Support the creation of interagency partnerships to establish cooperative projects that result in shared information and technology resources.

4.4 Support the creation of incentives that attract and retain highly-qualified personnel involved in mission-critical technology systems.

4.5 Create program and technical partnerships within agencies to support the use of methods and tools for the acquisition, development, implementation, and maintenance of information technology.

The Implementation Process

The purpose of the implementation plan is to provide the schedule, expectations, and commitments required to successfully deploy the state's Strategic Information Technology Plan. The implementation process for this plan encompasses the following:

- Roles and responsibilities of the stakeholders
- Major milestones in the implementation of the plan
- Timeline for implementation of the plan

This process includes the implementation plan to be initiated in January, 1993. A revised formal implementation plan will be published after a series of statewide impact assessments are evaluated. The participation and support of senior agency officials are key to the success of the process.

Roles and Responsibilities for Implementation

Responsibilities exist at two levels in the implementation of this plan. First, there is the responsibility for the implementation of specific information technology strategies, and second, the responsibility of producing key reports required during this planning process.

The following matrix identifies the responsible stakeholders of each strategy. The ✓ defines the primary responsibility for implementation of the strategy. Strategies designated as the primary responsibility of agencies must be incorporated into the agency's impact assessment and strategic technology plan. Strategies designated as the primary responsibility of DIS/PRD are statewide policy strategies. Agencies are included in the policy development process, although not primarily responsible for producing the ultimate product. Strategies that are indicated by dual ✓ indicate that both parties are equally responsible for implementation.

Strategies

Primary Responsibility for Strategies

STRATEGIES	AGENCY	DIS/PRD
GOAL 1: Improve service delivery.		
Optimize the delivery of services by using information technology to analyze, design, enhance, or eliminate processes within and among agencies.	✓	
Use information technology to increase public involvement in the processes that develop laws and policies.	✓	
Use software engineering methods, techniques, and tools to speed government responsiveness and implement better IT solutions.	✓	
Develop a statewide assessment process of information technology that promotes increased service levels so that the learning curve among agencies is reduced and state resources are leveraged.	✓	✓
Serve the public in a timely and responsive way by providing decision-makers at all levels within the organization with efficient and effective access to information and decision-support tools.	✓	
Identify incentives (cost-savings, information sharing) for cooperation and service delivery integration among state, local, and federal agencies.		✓
GOAL 2: Make information more accessible.		
Establish a statewide communications strategy and resulting infrastructure in order to facilitate information access by state customers.	✓	✓
Develop, evolve, and implement technologies that enable state customers to conveniently access government information from homes, businesses, libraries, and other locations in order to increase government responsiveness and public satisfaction.	✓	
Establish a state open standards profile that ensures adherence to accepted, vendor-independent standards that define interfaces and entities.		✓
Support projects that demonstrate portability, scalability, and interoperability in government information technology to make information easier and less costly to access.	✓	✓
Establish electronic data interchange (EDI) policies, procedures, and standards to facilitate the sharing of data among government, industry, and the public.		✓
Integrate government electronic mail systems to eliminate the barriers traditionally imposed by geography, demographics, or an agency's ability to pay.	✓	✓
Protect personal privacy and data integrity through the implementation of security practices that prevent the disclosure of information that might violate personal privacy or jeopardize vital government interests defined in law.	✓	

Primary Responsibility for Strategies

STRATEGIES	AGENCY	DIS/PRD
GOAL 2: Make information more accessible (continued).		
Prepare business resumption plans to ensure the rapid restoration of essential government services in the event of any emergency.	✓	
Implement the statewide video telecommunications strategic plan which calls for incremental implementation of a cost-effective, shared statewide video system.	✓	✓
GOAL 3: Use information technology to respond quickly to changing business requirements.		
Promote strategic alliances among federal, state, and local government, education, and industry in order to exchange information technology solutions and improve service to common customers.	✓	✓
Expedite the deployment of information technology solutions to meet rapidly changing agency needs by improving the acquisition process.		✓
Encourage innovation with pilot or demonstration projects that test new solutions more rapidly through a process that allows for risk taking without negative consequences.	✓	
Explore the potential associated with privatizing and out-sourcing appropriate information technology in government services.	✓	✓
Develop a statewide research, assessment, and planning process to investigate and apply emerging technologies in public service.	✓	✓
GOAL 4: Invest in people, tools, methods, and partnerships.		
Effectively train the information technology staff to utilize software engineering tools and techniques that result in decreased time needed to integrate and deploy information technology.	✓	
Provide education programs for levels of agency program staff from the frontline employee to senior agency executives, so that the broad implications of technology are understood.		✓
Support the creation of interagency partnerships to establish cooperative projects that result in shared information and technology resources.	✓	✓
Support the creation of incentives that attract and retain highly-qualified personnel involved in mission-critical technology systems.	✓	✓
Create program and technical partnerships within agencies to support the use of methods and tools for the acquisition, development, implementation and maintenance of information technology.	✓	

Agency Implementation Responsibilities

The following requirements are founded on the overall state information technology process. The Performance Report and Agency Strategic Plan are legislatively mandated. The Strategic Impact Assessment will be used to calibrate the implementation of the state strategic plan. Supporting details to these requirements are found in the Information Technology Policy Manual.

Strategic Plan Impact Assessment:

This brief document will assess the impact on the agency of implementing the state strategic plan. The guidelines, developed by DIS/PRD in conjunction with the agencies, will address the following issues:

- To what degree does the current agency strategic technology plan support the new state plan? What overall changes are necessary?
- Which strategies are currently supported in the agency's technology plan?
- Which strategies are not currently supported in the agency technology plan?
- What is the expected cost of compliance with the state strategic plan?

Each agency will prepare a biennial performance report by September 1993, and a strategic technology plan by March 1994.

Performance Report:

Each agency will prepare a biennial performance report by September 1993. The report shall include evaluations of the implementation of its most recent Strategic Information Technology Plan, as well as its performance relating to information technology. This includes an inventory of agency information services equipment and proprietary software.

Strategic Technology Plan:

Each agency will prepare a strategic plan for the development and use of information technology by March 1994. These plans will include an explanation of how the agency's mission, goals, and objectives for information technology support and conform to the state's Strategic Information Technology Plan.

Department of Information Services
Policy and Regulation Division Responsibilities

Commitment to Communicate:

It is the responsibility of DIS/PRD to commit to ongoing communication with the agencies. This communication will take the form of public meetings, forums, written guidelines, and directives. Communication is vital to the success of this plan and the effective use of information technology in the state as a whole.

Statewide Impact Assessment Report:

The purpose of this report is to communicate significant issues involved with implementing this plan. This document will summarize issues from the agency Strategic Plan Impact Assessment reports, as well as key statewide issues in the implementation of this strategic plan.

Technical Reference Guide:

The technical reference guide (TRG) published here in draft form in appendix A is a framework that brings together existing state information technology policies. The TRG also identifies information technology areas where policies have not been adopted. The TRG will be developed incrementally in conjunction with state agencies.

Agency Performance Reporting Guidelines:

Guidelines for agency performance reporting will be published in April 1993. Updated requirements for agency information technology strategic plans will be included in these guidelines.

Statewide Performance Report:

DIS/PRD will prepare a biennial state performance report on information technology for the Information Services Board (ISB) and the Legislature in

December 1993. This report is legislatively mandated and will be based in part on information provided in agency performance reports. The report will include an assessment of progress made toward implementing the state's Strategic Information Technology Plan.

DIS/PRD will update the state's Strategic Information Technology Plan as required. A review of the plan is scheduled for 1994.

Joint Implementation Responsibilities

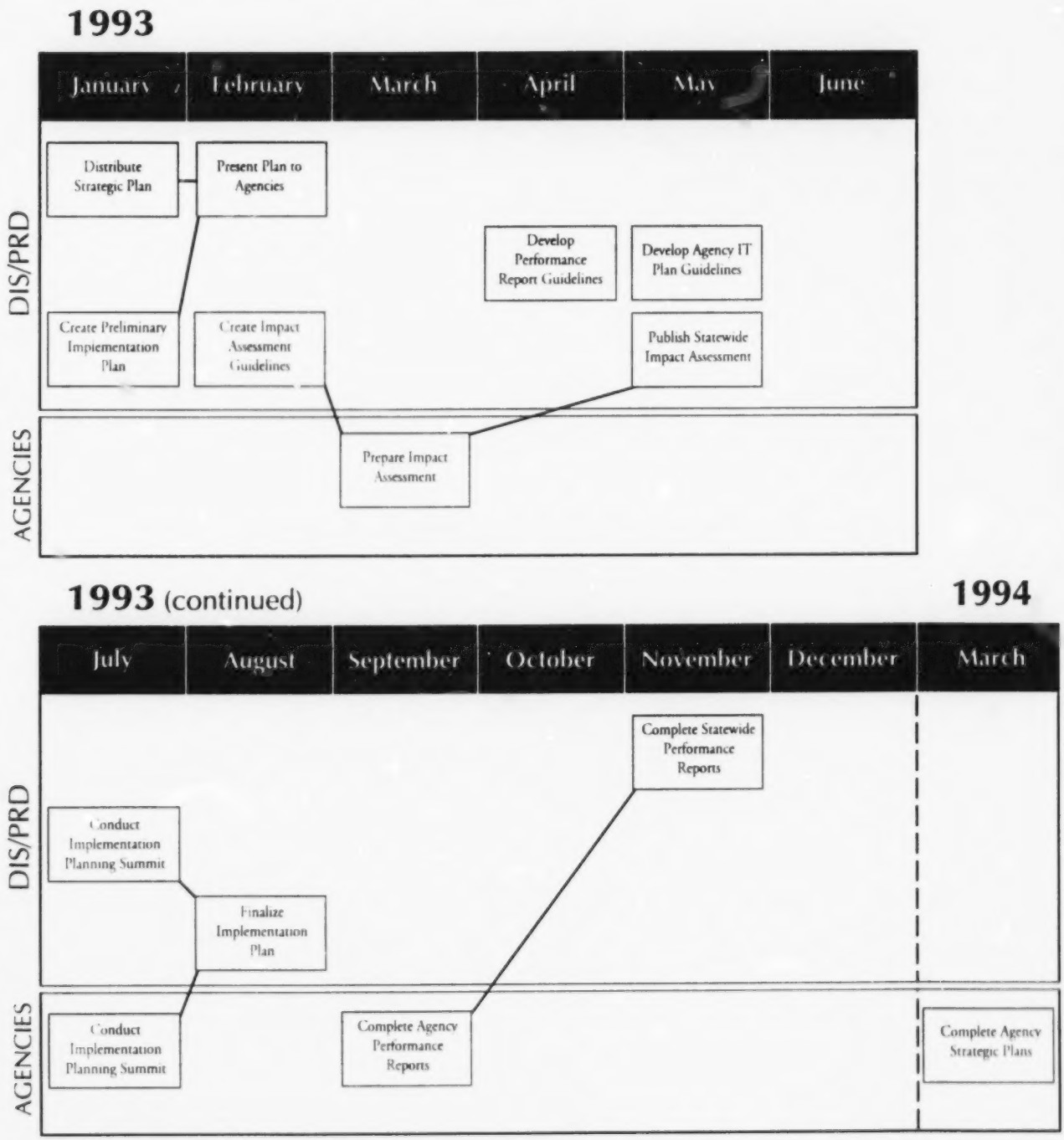
Implementation Planning Summit:

This planning summit will result in the creation of the formal implementation plan. This summit will include representatives of stakeholder communities and will focus on implementation issues critical to the success of information technology in the state. Issues will be identified from the state and agency impact assessments and the Primary Responsibilities for Strategies matrix in this plan.

Timeline for Major Milestones

The following chart includes the major milestones to be met by state agencies and DIS/PRD.

The Strategic Information Technology Plan Implementation Process



Appendix A

Technical Reference Guide

The Technical Reference Guide defines the technical positions and strategic direction of the state of Washington's information systems. It includes Washington's position on hardware, software, telecommunications, operating systems, and database management systems. It is to be used in project planning, strategic development, and resource planning.

The Guide will be more fully developed as the strategic planning process continues. Where standards presently exist, they will be listed. Where desired standards are known, the migration path from present to future will be charted.

The following table is an example of the level of detail expected to be included in the Guide.

TECHNOLOGY AREA	PRESENT STANDARD	FUTURE STANDARD
Host-level Computer Operating System	370 Architecture MVS/CICS	POSIX
Client/server Operating Systems	DOS, OS/2, Windows UNIX, POSIX	POSIX
Database Systems	SQL, DB2, Legacy Systems	SQL
Internet Protocol	TCP/IP	ISO/OSI
Wiring		
Work Area	UTP	Fiber, UTP
Intrabuilding	UTP, Fiber	Fiber
Interbuilding	Fiber	Fiber
Local Area Network	802.3, 802.5	802.3, 802.5, 802.6

Appendix B

Contributors to the Plan

The following individuals have provided input to the creation of the State of Washington Strategic Information Technology Plan:

John Anderson	Department of Information Services
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Rick Coplen	Administrator for the Courts
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Dave Hogan	Department of Social and Health Services
Ron Johnson	University of Washington
Dennis Jones	Department of Information Services
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Karen Lichtenstein	Department of Social and Health Services
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Mike Reed	Department of Ecology
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Darrel Riffe	Department of Revenue
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Gary Robinson	Office of Financial Management
Dave Scheibe	Department of Transportation
Larry Seale	Office of Financial Management
Marj Shavlik	Department of Information Services
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Fred Stephens	Department of Social and Health Services
Thelma Struck	Department of Social and Health Services
Doug Tanabe	Office of the Governor
Diane Vasarkovy	Employment Security Department
Jerry Winkle	Kent School District

Appendix C

Glossary

CICS - Customer Information Control System. IBM systems software that enables transactions entered from remote terminals to be processed concurrently by applications programs. Also referred to as a teleprocessing monitor, CICS is one of the components of the host-level computing standards.

client/server architecture - Essentially a software defined method of computing. A concept of application deployment that functionally supports the notion of "application execution" as dispatchable units of work are assigned to a network of servers (resources) that respond to the initiating client. Client/server embodies the general concepts of cooperative processing, distributed processing, and networked processing.

data integrity - The accuracy, validity, and consistency of data.

DB2 - (Database-2) IBM's product for general purpose information storage, including database management. A reasonably complete implementation of relational technology.

DOS - Disk Operating System, usually refers to MS-DOS, the Microsoft operating system for Intel 80x86-based personal computers. DOS, like other operating systems, manages the flow, entry, and display of software and data to and from the various parts of the computer system.

802.3 - The physical and medium access control standards for CSMA/CD local area networks, such as Ethernet.

802.5 - The physical and medium access control standard for token-ring local area networks.

802.6 - The physical and medium access control standard for metropolitan area networking (MAN).

electronic mail - (E-mail) Any communications service that permits the electronic transmission and storage of text messages.

fiber - Thin strands of transparent and translucent glass (or plastic) through which light is transmitted. The light source may be a laser or light emitting diode (LED). Cables made of optical fiber generally have a much greater bandwidth (information carrying capacity) than traditional metallic cables.

governance structure - The organization needed to manage an application of technology that crosses traditional institutional boundaries.

host-level computer - A large "mainframe" processor defined in the computing standards as a system used "for state government administrative information processing applications having large data and transaction volumes and requiring significant staff support."

information technology (IT) - The equipment, software, services, and products used in storing, processing, transmitting, and displaying all forms of information. Information technology includes data processing, office automation, multimedia, and telecommunications.

integrated communications infrastructure - The network structure essential to move information in many forms (telephone calls, high-speed data communications, or television images) across geographical barriers.

interactive communications - Sharing information in "real-time." A telephone call is an example of interactive communications today; in the future your television may become a device for interactive communications.

interactive display screen - A video monitor that reacts to touch or sound in order to share information with a system user.

ISO - International Standards Organization, the promoter of the OSI model, an independent international body formed to define standards for multivendor network communications.

kiosk - An extension of the automated transaction machine (ATM) concept which disseminates information and service though the use of touch-screens, motion video and stereo audio to the public. Current applications include destination locators in corporate lobbies, consumer education kiosks in stores, and government information kiosks.

LAN - Local Area Network. A data transmission facility connecting computers and other communicating devices over a short distance (typically within a building or campus) under some form of standard control.

legacy - Antiquated computing and communications systems that may still provide useful service.

multimedia - Blending of the audiovisual power of television with the interactive power of computers to create a new vehicle for communications. Almost all forms of information (text, sounds, and pictures) can now be translated into digital information, the ones and zeros that computers read. Multimedia allows users to interact with the computer using a variety of familiar interfaces such as touch, sound, and full-color, full-motion video.

multimedia technologies - The digital integration of text, sound, graphics, and video.

MVS - (Multiple Virtual Storage) IBM's flagship operating system. Essentially all device support, software functions, time-sharing aids, and reliability improvements ever produced by IBM are available with MVS.

open standards profile - A framework of nonproprietary specifications that defines interfaces, services, protocols, and supporting data formats.

operating system - Software that manages the flow, entry, and display of utilities, applications software and data to and from the various parts of the computer system.

OS/2 - (Operating System/2) IBM's operating system for the PS/2 which features integrated communications and database facilities.

OSI - Open Systems Interconnection, a logical structure for network operations. The OSI structure has seven layers (application, presentation, session, transport, network, data link, and physical). Each layer depends on the services of the layer below it and provides services to the layer above.

POSIX - The Institute of Electrical and Electronics Engineers (IEEE) standard for a portable operating system interface for computer environments. This Unix-based standard has been adopted as a Federal Information Processing Standard, and is included in the Open Software Foundation's and X/Open's basic specification.

SQL - (Structured Query Language) A relational data language that provides a consistent, English keyword-oriented set of facilities for query, data definition, data manipulation, and data control. It is a programmed interface to a relational database management system.

stakeholders - Individuals and organizations with some investment in the operation and management of information technology in state government. Stakeholders include decision makers such as taxpayers, the governor, legislators, and members of the Information Services Board; as well as agency program staff, and the technical staff involved in applying information technology to the service of government.

TCP/IP - Transmission Control Protocol/Internet Protocol describes a set of protocols or rules used for interconnecting computer equipment. These protocols allow dissimilar operating systems to share services and data. TCP/IP is the state's standard for connecting heterogeneous computers. TCP/IP protocols are non-proprietary and non-copyrighted.

telecommunications - Chapter 43.105.020 RCW says "telecommunications means the transmission of information by wire, radio, optical cable, electromagnetic, or other means."

telecommuting - The partial or total substitution of telecommunications (and possibly computer technologies) for the daily commute to and from work. Telecommuting is a form of decentralized work.

370 - Generic term for IBM's mainframe architecture. Computers with 370 architecture include 370/xxx, 9370, 43xx, 303x, 308x, and 3090.

Unshielded Twisted Pair (UTP) - Wiring consisting of two insulated wires twisted around each other to reduce induction, thus interference, from one wire to the other. Twisted pair wire comes in bundles with varying numbers of pairs of wires, from two pair (four wires) to many thousands of pairs. UTP wiring is installed in most buildings because it is inexpensive and relatively easy to install.

Unix - A widely-used family of computer operating systems known for its relative hardware independence and portable applications interface. Unix is a registered trademark of AT&T.

video telecommunications - The electronic interconnection of two or more sites for the purpose of transmitting and/or receiving visual and associated audio information.

WAN - Wide Area Network. A data transmission facility connecting geographically dispersed (typically across the state, nation, or world) computers and peripheral devices under some form of standard control. Physically separate LANs are often logically linked through a WAN to allow transparent access to remote information.

Windows - A software system written by Microsoft to manage a graphical-user interface for Intel 80x86-based personal computers. It uses multiple screen segments to display different items of information.

Appendix D

STATE OF WASHINGTON VIDEO TELECOMMUNICATIONS STRATEGIC PLAN

Situation Assessment

This plan brings common purpose and effective statewide coordination to video telecommunications activities in Washington state.

The Department of Information Services (DIS) is designated the lead agency in the statewide coordination of video telecommunications through the DIS enabling legislation (RCW 43.105) and provisos in the biennial budgets 1989–1991 and 1991–1993. DIS is directed to assure the cost-effective development and incremental implementation of a shared statewide video telecommunications system.

Purpose

The intensifying need to do more with less is changing the way government does business in Washington. This plan will help meet that need.

The purpose is to provide a cohesive strategic framework for Washington's successful and efficient use of video telecommunications for the delivery of education and training, teleconferencing, and information dissemination within state government. This plan outlines a structure to link and measure agency planning with the statewide vision for video telecommunications.

Ultimately, this plan will serve to improve Washington state's quality of public service and increase the productivity and effectiveness of government through the efficient use of video telecommunications technology.

Mission

Implement, by 1997, a successfully shared statewide video telecommunications system that will integrate multiple technologies and existing resources to serve the legislature, government agencies, education, and the general public.

Opportunities

Implementation of a shared statewide video telecommunications system is a key step toward increasing efficiency in government; integrating text, sound, graphics, and video, and enabling the effective use of these multimedia technologies. This technology can be used to increase access to information, improve delivery of services and education, enhance policy development and support broader state objectives. Here are some examples of how video telecommunications can be used:

Accessing Information

- To enable education without walls by capturing the talents of our most gifted instructors and delivering them directly to students anywhere in the state.
- To make information resources accumulated by a government agency more readily shared with other agencies and the public.
- To electronically explore society's accumulated knowledge base through libraries of digital images.

Improving Delivery of Services and Education

- To allow place-bound and time-bound students and employees to receive classroom instruction and degrees through satellite, cable, and other television delivery systems.
- To enhance research, health care, and every existing instructional program.

- To improve government responsiveness. Services that require letters, phone calls, or visits to government offices can be conducted through multimedia. Services can be delivered 24 hours a day, seven days a week, at convenient locations without additional government staff.

Enhancing Policy Development

- To allow government to provide public affairs programming such as televised legislative sessions.

- To encourage direct communication between the public and the government by providing interactive town hall type forums.

Supporting State Objectives

- Strategic Information Technology Plan — To directly support the goals and implementation of the State Strategic Information Technology Plan.

- Workforce Training — To effectively capture the sight, images, and sounds making workforce training (or retraining) more available and accessible through various modes of distribution.

- Transportation Demand Management — To offer savings of time and money as an environmentally and economically sensitive alternative to travel.

Strategies

The strategies that implement this plan are divided into four major components:

- Planning and funding
- Program development
- Human resources
- Technical infrastructure

Planning and Funding Strategies

Strategy #1: An interagency advisory committee will develop recommendations to coordinate statewide planning, implementation, and access to video telecommunications resources.

Strategy #2: Streamlined policies and procedures for video telecommunications will be developed by the Policy and Regulation Division (PRD) of DIS, with participation of the video advisory committee, for Information Services Board (ISB) approval.

Strategy #3: Methods to fund coordinated video telecommunications activities will be developed and implemented.

Program Development Strategies

Strategy #4: Programs that are developed and implemented by agencies and institutions that use existing video telecommunications resources will be encouraged and supported.

Strategy #5: Information dissemination to the general public, interactive public affairs presentations, and a public forum for state issues will be facilitated and supported by assuring that accessible production and distribution facilities exist.

Strategy #6: Development and support of technology-based distance education and training will be continued.

Human Resource Strategies

Strategy #7: A "video smart culture" within state government will be cultivated, thereby creating a greater awareness of the applications for, and benefits of, video telecommunications.

Strategy #8: Continuous training for public employees will be initiated, supported, and coordinated to foster video telecommunications expertise and use.

Strategy #9: A state video telecommunications resource service will be established that provides reference data to state employees, including but not limited to: general information about state video human and physical resources, telecommunications conferences and associations, reference books, periodicals, and tapes.

Technical Infrastructure Strategies

Strategy #10: State resources will be optimized by interfacing existing and future systems, coordinating greater accessibility, and sharing resources among educational communities and state agencies.

Strategy #11: Facilities and resources will be added to the technical infrastructure, leveraging existing resources and further stimulating the efficient use of video telecommunications in response to user needs.

Strategy #12: The state's aggregate purchasing power, when utilizing common carrier circuits for video telecommunications, will be optimized (when cost effective) by consolidating backbones to reduce unnecessary redundancies and expense. PRD will examine initiatives that involve utilizing common carrier circuits in accordance with the Information Technology Budget Instructions published by DIS and the Office of Financial Management (OFM) effective with the 1993–1995 Biennium.

State of Washington
Department of Information Services
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